

REMARKS

The Office Action dated September 29, 2004 has been carefully considered. In response to the Office Action, Applicant has amended the application. Applicant respectfully requests that the Examiner consider the foregoing amendments and the following remarks, and then pass the application to allowance.

Rejection Under 35 U.S.C. § 102(b)

In the Office Action, claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by Klatt (U.S. Patent No. 5,243,268). By this amendment, Applicant has cancelled claim 1 and added new claims 2-20 to recite the novel and unobvious aspects of the present invention. Specifically, new independent claims 2, 8 and 13 recite that the motor includes an energy storage capacitor that is sized to store the energy of the motor. Applicant respectfully submits that Klatt does not disclose a capacitor that stores the energy of the machine.

As understood, the capacitors disclosed by Klatt are used for filtering, as a by-pass for high frequency carrier signals around a switch, or to block the low frequency power signals which drive the motor. The capacitors are not intrinsic to motor operation but may be optional. (Klatt, col. 14 lines 50-50 and column 15, line 25).

Klatt discloses a method of rotor excitation that eliminates the mechanical method of current conduction between the rotor and stator. Rather than using slip rings and brushes, a "high frequency rotating transformer which will be referred to hereinafter as HFRT..." enables power for rotor excitation to be transferred across the air gap. (Klatt, col. 3, line 59). The capacitors disclosed by Klatt are used for canceling the effects of stray inductance. As described at column 14, lines 30-35 of

Klatt, "Each resonating capacitor, in combination with the leakage inductance of its designated phase winding, implements a resonating circuit whose frequency of resonance is the carrier frequency..." which is many times higher than the machine electrical frequency. Furthermore, Klatt discloses that the resonating capacitors are selected so that the combined circuit, which is the resonating capacitances and leakage inductance of the HFRT rotor and stator, becomes a resonating circuit. In particular, the referenced capacitor 120 is described in lines 5-30 of column 16 as integral with the high frequency HFRT stator winding 16.

On the other hand, the energy storage capacitor described in independent claims 2, 8 and 13 resonates at the power signal frequency, i.e., at the operating electrical frequency of the machine. The energy storage capacitor forms a resonant LC tank circuit in conjunction with the total motor inductance. It does not form a circuit with the fractional leakage inductance as disclosed by Klatt. As such, the energy storage capacitor as claimed is sized to store the electrical energy equivalence of the total magnetic energy stored within the motor. In this respect, the energy storage capacitor of the present invention has a size many times greater than the relatively small by-pass capacitors disclosed by Klatt.

Accordingly, Klatt discloses capacitors that are non-essential and only improve the integrity of the circuit. The capacitors disclosed by Klatt are used to offset incidental inductive effects. On the other hand, the energy storage capacitor disclosed by independent claims 2, 8 and 13 reacts with the entire motor inductance such that the motor itself becomes an inductive component of the resonating LC circuit formed with the capacitor. As such, the energy storage capacitor is an essential element to the motor such that the motor would not operate without it.

Conclusion

Applicant respectfully submits that independent claims 1, 8 and 13 as well as claims 2-7, 9-12, and 14-20 dependent thereon, are not anticipated by Klatt for the foregoing reasons. As such, Applicant respectfully urges that the claims of the present application define patentable subject matter and should be passed to allowance. Such allowance is respectfully requested.

If the Examiner believes that a telephone call would help advance prosecution of the present invention, the Examiner is kindly invited to call Applicant's representative at the telephone number listed below.

Respectfully submitted,

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By: _____



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